In the Specification:

Please amend the specification as shown:

Please delete the paragraph on page 27, lines 5-16, and replace it with the following paragraph:

Hybridization tests using energy transfer from the light harvesting multi-chromophore system to the signaling chromophore was demonstrated using the cationic water soluble conjugated polymer poly(9,9-bis(6'-N,N,N-trimethylammonium)-hexyl)-fluorene phenylene), polymer **1** with iodide counteranions. The sensor polynucleotide sequence was 5'-GTAAATGGTGTTAGGGTTGC-3' **(SEQ ID NO: 1)**, corresponding to the anthrax (Bacillus anthracis) spore encapsulation plasmid, pX02, with fluorescein at the 5' position, forming an example of oligo-C*.[24] The absorption and emission spectra of the polymer and the signaling chromophore are shown in Figure 1. The data show an optical window for the excitation of polymer **1**, between the absorption of DNA and fluorescein. Direct excitation of polymer **1** results in energy transfer (ET) to fluorescein, as shown in Figure 1. The absorbance overlap of fluorescein with the emission of polymer **1** was selected to ensure FRET.[25] The extent of ET can be evaluated by the ratio of integrated acceptor to donor emission.

Please delete the paragraph on page 27, line 19, through page 28, line 2, and replace it with the following paragraph:

Hybridization of the Oligo-C* probe leads to changes in the ET ratio. The sensor polynucleotide ([Oligo-C*]=2.1×10^{-8} M) was annealed at 2°C below its Tm (58.4°C) in the presence of an equal molar amount of a 40 base pair strand containing a complementary 20 base pair sequence, 5'-CATCTGTAAATCCAAGAGTAGCAACCCTAACACCATTTAC-3' **(SEQ ID NO: 2)**, and in an identical fashion with a non-complementary 40 base strand with the sequence 5'-AAAATATTGTGTATCAAAATGTAAATGGTGTTAGGGTTGC-3' **(SEQ ID NO: 3)**. Direct comparison of the resulting fluorescence reveals an ET ratio greater than 6 fold higher for the hybridized DNA. *See* Figure 2. It is also highly significant that these optical differences are observed in the presence of a 10 mmol Sodium Citrate and 100 mmol Sodium

Chloride buffer. Buffer ions screen like charges on complementary DNA strands which facilitates hybridization but weakens electrostatic interactions between CPs and fluorescence quenchers of opposite charge.[26] Using a Xenon lamp fluorometer, equipped with a standard PMT, the hybridized DNA provided over 3 fold greater ET ratios, at [sensor polynucleotide]=2.8×10^{-9} M, than did the non-hybridized DNA.

Please delete the paragraph on page 28, line 22, through page 29, line 12, and replace it with the following paragraph:

Hybridization of the Oligo-C* probe (5'-Fl-ATCTTGACTATGTGGGTGCT-3') **(SEQ ID NO: 4)** leads to differences in the ET ratio to two different sensor chromophores. The sensor polynucleotide ([Oligo-C*]=1×10^{-8} M) was annealed at 2°C below its Tm (58.5°C) in the presence of an equal molar amount of a 20 base pair strand containing a complementary 20 base pair sequence, (5'-AGCACCCACATAGTCAAGAT-3') **(SEQ ID NO: 5)**, and in an identical fashion with a non-complementary 20 base pair strand with the sequence (5'-CGTATCACTGGACTGATTGG-3') **(SEQ ID NO: 6)**. The two DNA mixtures were mixed with Ethidum Bromide ([EB]=1.1×10^{-6} M) at room temperature in potassium phosphate monobasic-sodium hydroxide buffer solution (50 mM, pH=7.40) where the intercalation of the EB occurred within the duplex structure of the hybridized DNA pair. Addition of polymer **1** in water ([1]=1.6×10^{-7} M) and subsequent excitation of **1** (380 nm) resulted in energy transfer from **1** to the intercalated EB only in the case of hybridized or double stranded DNA. Emission from the EB was detected upon excitation of polymer **1** for only the hybridized sequences. *See* Figure 3. This result demonstrates that the DNA sequence sensor of this invention can detect the presence of target single stranded DNA with a specific base sequence complementary to that of the sensor polynucleotide by detecting the emission from a polynucleotide-specific dye upon excitation of a polycationic multichromophore. The chromophores used in this example were chosen for the proper overlaps in energy between the multichromophore and the two signaling chromophores.

Please delete the paragraph on page 29, line 27, through page 30, line 12, and replace it with the following paragraph:

Experiments using **1** and ethidium bromide ("EB") as a signaling chromophore demonstrated that direct energy transfer from **1** to EB could be shown in the presence of double-stranded DNA. The sensor polynucleotide (5'- ATCTTGACTATGTGGGTGCT-3') **<u>(SEQ ID NO: 4)</u>** lacking the signaling chromophore ([Oligo]=1×10^{-8} M) was annealed at 2°C below its Tm (58.5°C) in the presence of an equal molar amount of a 20 base pair strand containing a complementary 20 base pair sequence, (5'-AGCACCCACATAGTCAAGAT-3') **<u>(SEQ ID NO: 5)</u>**, and in an identical fashion with a non-complementary 20 base pair strand with the sequence (5'-CGTATCACTGGACTGATTGG-3') **<u>(SEQ ID NO: 6)</u>**. The two DNA mixtures were mixed with Ethidum Bromide ([EB]=1.1×10^{-6} M) at room temperature in potassium phosphate monobasic-sodium hydroxide buffer solution (50 mM, pH=7.40) where the intercalation of the EB occurred within the duplex structure of the hybridized DNA pair. Addition of polymer **1** in water ([**1**]=1.6×10-7 M) and subsequent excitation of **1** (380 nm) resulted in energy transfer from **1** to the intercalated EB only in the case of hybridized or double stranded DNA. Emission from the EB was detected upon excitation of polymer **1** for only the hybridized sequences. *See* Figure 5.

Please add the enclosed Sequence Listing to the end of the specification.